



Complete Summary

GUIDELINE TITLE

Principles of appropriate antibiotic use for acute sinusitis in adults.

BIBLIOGRAPHIC SOURCE(S)

Snow V, Mottur-Pilson C, Hickner JM. Principles of appropriate antibiotic use for acute sinusitis in adults. Ann Intern Med 2001 Mar 20;134(6):495-7. [1 reference]

COMPLETE SUMMARY CONTENT

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SCOPE

DISEASE/CONDITION(S)

Acute sinusitis

GUIDELINE CATEGORY

Diagnosis
Treatment

CLINICAL SPECIALTY

Emergency Medicine
Family Practice
Infectious Diseases
Internal Medicine

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

To provide specific recommendations on how clinicians evaluating acute sinusitis can differentiate bacterial causes from viral causes and when use of antibiotics is beneficial

TARGET POPULATION

Immunocompetent adults presenting with acute maxillary and ethmoid rhinosinusitis

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis

1. Sinus puncture with aspiration of purulent secretions
2. Evaluation of signs and symptoms
3. Sinus radiography

Treatment

1. Antibiotic therapy
2. Symptomatic treatment

MAJOR OUTCOMES CONSIDERED

- Duration of illness
- Reduction or elimination of symptoms
- Time to resolution of facial pain
- Complications

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

These guidelines do not represent original systematic reviews of the literature since up-to-date, high-quality systematic reviews of antibiotic treatment of upper respiratory tract infections, acute bronchitis, sinusitis, and sore throat have been conducted by such expert groups as the Cochrane Collaboration and the Agency for Healthcare Research and Quality. However, the literature review process for each of these areas was updated through March 2000. All studies were analyzed and interpreted by the Panel, and its conclusions do not necessarily reflect those of the original publications from which the studies were identified.

The Panel conducted comprehensive reviews for areas not addressed in published systematic reviews, particularly those pertaining to etiology and diagnosis. Whenever possible, only studies that enrolled consecutive, nonreferral ambulatory patient populations were considered. Etiologic studies used to estimate incidence or prevalence of bacterial infections were also excluded if they were conducted during known outbreaks or epidemics of a pathogen. Studies were excluded if they included large numbers of patients with comorbid conditions.

For more information see: Gonzales R, Bartlett JG, Besser RE, Cooper RJ, Hickner JM, Hoffman JR, Sande MA. Principles of appropriate antibiotic use for treatment of acute respiratory tract infections in adults: background, specific aims, and methods. *Ann Intern Med* 2001 Mar 20;134(6):479-86.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence

A

Etiology or Diagnosis Studies: independent, blinded comparison with reference standard in appropriate spectrum of patients, all of whom have undergone both the diagnostic test in question and testing with the current gold standard; or validated prediction rule.

Treatment or Efficacy Studies: randomized, placebo-controlled trials with little or no heterogeneity.

B

Etiology or Diagnosis Studies: independent, blinded comparison in patients not enrolled consecutively or in a narrow spectrum of patients; or nonvalidated prediction rule.

Treatment or Efficacy Studies: randomized, placebo-controlled trials with some heterogeneity; or well-designed cohort studies.

C

Etiology or Diagnosis Studies: independent, blind comparison, but reference standard not applied to all patients.

Treatment or Efficacy Studies: case series or poor cohort studies.

D

Etiology or Diagnosis Studies: reference standard not applied independently or not applied in a blind manner; or expert opinion.

Treatment or Efficacy Studies: expert opinion.

From: Gonzales R, Bartlett JG, Besser RE, Cooper RJ, Hickner JM, Hoffman JR, Sande MA. Principles of appropriate antibiotic use for treatment of acute respiratory tract infections in adults: background, specific aims, and methods. Ann Intern Med 2001 Mar 20; 134(6): 479-86.

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

See: Gonzales R, Bartlett JG, Besser RE, Cooper RJ, Hickner JM, Hoffman JR, Sande MA. Principles of appropriate antibiotic use for treatment of acute respiratory tract infections in adults: background, specific aims, and methods. Ann Intern Med 2001 Mar 20; 134(6): 479-86.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A cost-effectiveness model sponsored by the Agency for Healthcare Research and Quality (AHRQ) favored antibiotic treatment for patients with moderate to severe symptoms and symptomatic treatment for those with mild symptoms.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Comments were solicited from the American College of Physicians-American Society of Internal Medicine Clinical Efficacy Analysis Subcommittee; the Respiratory Diseases Branch of the National Center for Infectious Diseases, Centers for Disease Control and Prevention (CDC); and selected individuals. It was approved by the Clinical Efficacy Assessment Committee in June 2000 and by the American College of Physicians (ACP) Board of Regents in July 2000. The guideline underwent peer review for publication in the journal "Annals of Internal Medicine."

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

1. Sinus radiography is not recommended for diagnosis of uncomplicated sinusitis.

The greatest barrier to efficient antibiotic treatment of acute bacterial rhinosinusitis is lack of a simple and accurate diagnostic test. Until a better test is widely available in office practice, the office diagnosis of acute bacterial rhinosinusitis will remain imprecise. Duration of illness is a useful clinical criterion because acute bacterial sinusitis is not common in patients whose symptoms last for less than 7 days. Patients who do not have persistent purulent nasal drainage, maxillary facial or tooth pain or tenderness, or both are unlikely to have bacterial rhinosinusitis, regardless of duration of illness.

2. Acute bacterial sinusitis does not require antibiotic treatment, especially if symptoms are mild or moderate.

Because most patients with a clinical diagnosis of rhinosinusitis improve without antibiotic treatment, symptomatic treatment or reassurance is the preferred initial management strategy. Appropriate doses of analgesics, antipyretics, and decongestants should be offered, as well as patient education about the chosen management strategy.

3. Patients with severe or persistent moderate symptoms and specific findings of bacterial sinusitis should be treated with antibiotics. Narrow-spectrum antibiotics are reasonable first-line agents.

In most cases, antibiotics should be used only for patients with the specific findings of persistent purulent nasal discharge and facial pain or tenderness who are not improving after 7 days or those with severe symptoms of rhinosinusitis, regardless of duration. On the basis of clinical trials, amoxicillin, doxycycline, or trimethoprim-sulfamethoxazole are the favored antibiotics.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The recommendations are supported by the high quality evidence presented in the clinical practice guideline, part 2: Hickner JM, Bartlett JG, Besser RE, Gonzales R, Hoffman JR, Sande MA. Principles of appropriate antibiotic use for acute rhinosinusitis in adults: background. Ann Intern Med 2001 Mar 20;134(6):498-505.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Besides decreasing the risk for allergic reactions, adverse reactions, and drug-drug reactions, the intended result of efforts to decrease indiscriminant antibiotic use in the ambulatory setting is to reduce (and preferably reverse) the increase in antibiotic-resistant *Streptococcus pneumoniae*. It is encouraging that in Finland, a 40% reduction in community use of macrolides was associated with a 48% decrease in the prevalence of erythromycin resistance among group A streptococcal isolates over 4 years.

POTENTIAL HARMS

If a benefit of indiscriminant antibiotic use on rare clinical outcomes does exist, it is possible that limiting indiscriminant antibiotic prescribing will attenuate this benefit. A risk or harm voiced more frequently, however, is that not prescribing an antibiotic will lead to patient dissatisfaction with care or increased return visits. In a study of adults seeking care for acute respiratory illness, the quality of the clinician-patient interaction rather than receipt of an antibiotic was the most important determinant of patient satisfaction with care. A recent patient and clinician educational intervention that reduced antibiotic prescribing for adults with acute bronchitis did not lead to increased return visits or dissatisfaction with care.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- Clinical practice guidelines are "guides" only and may not apply to all patients and all clinical situations. Thus, they are not intended to override clinical judgment.
- This guideline will automatically be withdrawn from American College of Physicians (ACP) circulation five years after publication.
- These principles should be applied with caution to elderly patients because many of the diagnosis and treatment trials specifically excluded or underrepresented persons older than 65 years of age.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

The principles are being disseminated through publication (in whole or in part) in professional society journals (American Family Physician, Annals of Emergency Medicine, Annals of Internal Medicine), presentation at annual meetings of professional societies, and established channels at the Centers for Disease Control and Prevention (CDC).

The Web site on [antimicrobial resistance](#) of the CDC National Center for Infectious Diseases will be used to provide updates and obtain feedback from clinicians.

The guideline developer proposes that the "Principles of Appropriate Antibiotic Use for Acute Respiratory Tract Infections in Adults" will be most useful if they are incorporated into comprehensive quality improvement efforts that include patient education and delivery system improvements.

IMPLEMENTATION TOOLS

Patient Resources

For information about [availability](#), see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Snow V, Mottur-Pilson C, Hickner JM. Principles of appropriate antibiotic use for acute sinusitis in adults. Ann Intern Med 2001 Mar 20;134(6):495-7. [1 reference]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2001 Mar 20

GUIDELINE DEVELOPER(S)

American College of Physicians - Medical Specialty Society

GUIDELINE DEVELOPER COMMENT

This guideline is one of the titles in this series on appropriate antibiotic use. The Clinical Efficacy Assessment Subcommittee of the American College of Physicians (ACP) reviewed and endorsed the guidelines and background papers. The Committee is made up of practicing internists, health services researchers and other academic experts.

SOURCE(S) OF FUNDING

American College of Physicians (ACP)

GUIDELINE COMMITTEE

Clinical Efficacy Assessment Subcommittee (CEAS)

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Authors: Vincenza Snow, MD, Christel Mottur-Pilson, PhD, and John M. Hickner, MD, MSc

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

ENDORSER(S)

American College of Physicians-American Society of Internal Medicine Board of Regents - Medical Specialty Society

GUIDELINE STATUS

This is the current release of the guideline.

The Web site on [antimicrobial resistance](#) of the Centers for Disease Control and Prevention (CDC) National Center for Infectious Diseases will be used to provide updates and obtain feedback from clinicians, as will the American College of Physicians (ACP) Web site.

GUIDELINE AVAILABILITY

Electronic copies: Available from the [American College of Physicians \(ACP\) Web site](#).

Print copies: Available from the American College of Physicians (ACP), 190 N. Independence Mall West, Philadelphia, PA 19106-1572.

AVAILABILITY OF COMPANION DOCUMENTS

The statements made by the American College of Physicians (ACP) in the guideline document are developed using the information provided in the following background papers:

- Gonzales R, Bartlett JG, Besser RE, Cooper RJ, Hickner JM, Hoffman JR, Sande MA. Principles of appropriate antibiotic use for treatment of acute respiratory tract infections in adults: background, specific aims, and methods.

Ann Intern Med 2001 Mar 20;134(6):479-86 [56 references]. Electronic copies: Available from the [ACP Web site](#).

- Hickner JM, Bartlett JG, Besser RE, Gonzales R, Hoffman JR, Sande MA. Principles of appropriate antibiotic use for acute rhinosinusitis in adults: background. Ann Intern Med 2001 Mar 20;134(6):498-505 [52 references]. Electronic copies: Available from the [ACP Web site](#).

Print copies: Available from ACP, 190 N. Independence Mall West, Philadelphia, PA 19106-1572.

Information contained in these background papers is represented in the methodology fields of the NGC Summary (i.e., Methods to Collect Evidence; Methods to Analyze the Evidence; Cost Analysis).

PATIENT RESOURCES

The following is available (for purchase) to physicians for patient education purposes:

- A new threat to your health: antibiotic resistance. Patient education brochure. Atlanta (GA): Centers for Disease Control and Prevention (CDC), 2001.

Ordering information is available at the Centers for Disease Control and Prevention (CDC) National Center for Infectious Diseases, [Division of Bacterial and Mycotic Diseases Antibiotic Resistance Web site](#).

The brochure is distributed by the Public Health Foundation, 1220 L Street, N.W., Suite 350, Washington, DC 20005; Telephone, (877) 252-1200 (toll free in the U.S.) or (301) 645-7773 (for international orders), 9:00 a.m. - 4:30 p.m. (Eastern Time), Monday through Friday; Fax: (301) 843-0159; Web site: www.phf.org.

The following is also available:

- Antibiotics: Do you really need them? American College of Physicians (ACP) 2001.

This brochure is available at http://www.doctorsforadults.com/topics/dfa_anti.htm or by ordering through American College of Physicians customer service (215)-351-2600.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC STATUS

This summary was completed by ECRI on May 24, 2001. The information was verified by the guideline developer as of July 30, 2001.

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